



City and County of the City of Chester.

ANNUAL REPORT

TO THE MAYOR, ALDERMEN, AND
COUNCILLORS OF THE CITY AND
COUNTY OF THE CITY OF CHESTER

ON THE

HEALTH OF THE CITY
IN **1924**

BY

D. RENNET, M.B.E., M.D., D.P.H.,
Medical Officer of Health.

Public Health Committee (1923-1924).

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<i>Sanitary Labourer</i>	-	-	-	F. VICKERS.
<i>Rat-Catcher</i>	-	-	-	W. LANGRICK.

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City and County of the City of Chester.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH.

1. General Statistics.

1. Area (acres)	2862
Population (1924)	41932
Number of inhabited houses (1921)	8447
Number of families or separate occupiers (1921) ..	8890
Rateable value	£243,263
Sum represented by a penny rate ...	£924 13s. 10d.

The Registrar General estimates the population as at the 30th June, 1924, at 41,730, to which has to be added 198 for Chester residents in the Union (outside our area) and 115 for residents in the Mental Hospital (also outside), and there has to be deducted 111 for non-residents in the Infirmary, which gives a corrected population of 41,932.

In recent reports, I have stated that the population figure supplied by the Registrar General was considerably below that derived from a local estimate. This year the supplied figure is no less than 310 above that given for 1923, and brings our official population to approximately that of the local estimate.

2. Extracts from Vital Statistics for the Year.

Births—legitimate, 776; illegitimate, 40. Birth-rate ...	19'46
Deaths—577	13'76
Number of women dying in or in consequence of childbirth— from sepsis, 2; other causes, 3.	
Deaths of infants, under one year of age, per 1,000 births—legitimate, 87'62; illegitimate, 125'0. Total	89'46
Deaths from Measles (all ages)—11. Rate	0'26
Deaths from Whooping cough (all ages)—2. Rate	0'047
Deaths from Diarrhoea (under 2 years)—8. Rate	5'5
per 1,000 living at that age.	

Compared with 1923, our birth-rate is practically stationary, being 19'46 compared with 19'22 in the previous year. The rate is higher than that for England and Wales by 0'6, and has the same relation to the rate for the smaller towns, which is 18'9, compared with our 19'4.

The excess of births over deaths is 239, which is slightly higher than the local estimate of annual increase of population, but considerably below the increase given this year by the Registrar General.

The death-rate is higher by 0·64 than in the previous year, and is 1·5 above the rate for England and Wales and 2·5 above the rate for the smaller towns. Those are crude death-rates, and when corrected for age and sex distribution, our rate becomes 13·42.

The Infant Death-rate.—Deaths of infants under one year numbered 73—4 more than last year, being equal to an infant death-rate of 89·4 per 1,000 births. Prematurity and congenital debility caused 25 deaths—three more than last year—and amounted to 34 per cent. of the deaths. Bronchitis and pneumonia caused 19 deaths (14 and 5), in place of 18 in the previous year; while diarrhœa and enteritis caused 7, compared with 3 in 1923, being 9·6 per cent. of the deaths. Fifteen per cent. of the deaths occurred in the first week of life.

The following table shows the position of Chester in relation to England and Wales and the smaller towns:—

	Birth rate per 1000 population.	Death rate all causes	Infant deaths per 1000 births.
England and Wales	18·8 ...	12·2 ...	75
Smaller towns	18·9 ...	11·2 ...	71
Chester	19·4 ...	13·7 ...	89

Chester death-rate corrected for age and sex distribution, 13·4.

Causes of Deaths.—While there has been an increase of one or two deaths under most causes, the increase is only marked in the case of measles and cancer. While 1923 was noticeably free from measles there was an epidemic of the disease in the early part of 1924, which caused 11 deaths, all being amongst children under 4 years of age.

Infectious disease as a whole caused 15 deaths, compared with 12 in the previous year.

Influenza caused 6 deaths, the disease having been prevalent in both the beginning and end of the year—fortunately in a mild form.

Tuberculous diseases caused 58 deaths, compared with 55 in 1923. There were 47 deaths from the pulmonary form of the disease, 5 more than last year; 7 from meningitis, the same as last year; and 4 from other forms of the disease, 2 less than in 1923.

Cancer caused 67 deaths, 13 more than the previous year. Deaths from cancer are increasing over the whole country. Comparing the deaths from this cause in the three pre-war years—before

our population became very uncertain—with the last three years, there is a rise of 17 per cent., the rates being 1·18 for 1912-13-14 and 1·38 for 1922-23-24. Cancer deaths account for 11·6 per cent. of the total.

Organic heart disease caused 61 deaths—about the same as last year, when the number was 59.

Bronchitis caused 56 deaths, compared with 54 in the previous year; and pneumonia 30, compared with 32.

All forms of non-tuberculous lung disease caused 95 deaths, compared with 91 in the previous year. They constituted 16·4 per cent. of the deaths.

Congenital debility and malformations caused 27 deaths, compared with 21 in the previous year.

Deaths according to age.

Among children under 1 year, four more deaths occurred than in 1923. Twenty-five of the deaths were due to prematurity or congenital debility, which is about the usual proportion in Chester, being 34 per cent. of the infant deaths. There was a large increase in the deaths from bronchitis—14, compared with 4 last year—and a corresponding reduction in those certified as having been caused by pneumonia—5, compared with 14. There is no very marked line of demarcation between the clinical signs of bronchitis and of certain types of pneumonia, and it is probable there is a certain amount of confusion between the two.

There was no summer diarrhoea as such, but there were 7 deaths of infants from diarrhoea and enteritis, the cases being certified as often in winter as summer.

In the age period 1 year and under 5, there is a considerable increase in the number of deaths, 47 children having died, compared with 30 in the previous year. Infectious diseases accounts for 12 of these deaths, compared with 6 last year. Ten of those deaths were due to measles, and with care and attention should have been prevented.

Pneumonia caused 13 of the deaths, compared with 7 in the previous year. Cold as an exciting cause and overcrowding as a contributory cause seem the most common circumstances in connection with those cases.

In the 5 years and under 10 group, there were only 2 deaths, compared with 6 last year, but in the group 10 years and under 15

there were 12 deaths, compared with 6 in 1923. There was no outstanding cause of this increase, the deaths having occurred as single cases from a variety of causes.

In the group 20 years and under 35, the deaths were fewer—28 compared with 39. The greatest difference was in the deaths from phthisis, which caused 10 deaths, compared with 17 in the year before.

Death-rates in different Wards.

On the assumption that the proportion of population in the different wards has remained the same since the last census, we get the following death-rates:—

	Population.	Death rate.
St. Mary's	6995 ...	15'43
St. John's	4310 ...	14'15
St. Oswald's	8026 ...	13'70
Boughton	12723 ...	13'20
Trinity	9878 ...	13'16
Chester	41923 ...	13'76

The wards with the greatest number of court houses have again the highest death-rates, this year much more marked than last. The table also helps to show the great handicap those crowded areas are to the health of the City.

The following table sets out the mortality rates for the infectious diseases and other principal causes of deaths, and also gives the average for the past five years for comparison:—

Disease.	Average death rate 1919—1923.		Death rate 1924.
Enteric fever	'02	...	'00
Smallpox	'00	...	'00
Measles	'08	...	'26
Scarlet fever	'00	...	'02
Whooping cough	'12	...	'05
Diphtheria	'05	...	'02
All common infectious diseases...	'29	...	'35
Diarrhœa (under 2 years)	'27	...	'21
Influenza	'35	...	'14
Bronchitis	1'32	...	1'33
Pneumonia	1'01	...	0'71
Cancer	1'31	...	1'59
Pulmonary tuberculosis	0'98	...	1'12
All tuberculous diseases	1'20	...	1'37

Of those causes of death, among the infectious diseases, measles is the only one above the average, and of the others, deaths from cancer are noticeably raised, and to a less extent those from pulmonary tuberculosis,

3. Notifiable Diseases during the Year.

The following table sets out the notifiable diseases which occurred during the year under various age groups, deaths being inserted in brackets:—

NOTIFIABLE DISEASES DURING THE YEAR 1924 (Deaths in Italics).

DISEASE.	Under 1 yr. ar.	1 and under 2	2 and under 3	3 and under 4	4 and under 5	5 and under 10	10 and under 15	15 and under 20	20 and under 35	35 and under 45	45 and under 65	65 and over.	Total cases.	Cases admitted to Hospital
Small Pox ...	...	0	0	0	0	0	0	0	0	0	0	0	0	—
Diphtheria ...	0	1	4	1	6 (1)	9	11	5	8	4	1	0	50 (1)	48
Scarlet Fever ...	0	1	6 (1)	6	4	24	21	7	8	0	0	0	77 (1)	74
Enteric Fever ...	0	0	0	0	0	0	0	1	1	1	2	0	5	2
Pneumonia ...	12 (5)	16 (10)	5 (2)	6 (1)	9	13	6	2	18	14 (2)	19 (3)	11 (7)	131 (30)	42
Erysipelas ...	0	0	0	0	0	0	0	0	1	0	4 (1)	3 (1)	8 (2)	0
Puerperal Fever ...	0	0	0	0	0	0	0	0	1 (1)	1 (1)	0	0	2 (2)	1
Acute Poliomyelitis ...	0	0	1	0	0	0	0	0	0	0	0	0	1	1
Chicken Pox ...	1	0	2	4	12	65	16	0	0	0	0	0	100	0
Malaria ...	0	0	0	0	0	0	0	0	1	0	0	0	1	0
Ophthalmia Neonatorum ...	4	0	0	0	0	0	0	0	0	0	0	0	4	1
Encephalitis Lethargica ..	0	0	0	0	0	0	1	0	1 (1)	0	0	0	2 (1)	2

Ophthalmia Neonatorum.	CASES			Vision Unimpaired.	Vision Impaired.	Total Blindness.	DEATHS.
	Notified.	Treated.					
		At Home.	By Hospital.				
4	4	3	1	4	—	—	—

Cases of infectious disease notified during the year numbered 381, compared with 265 in 1923. The increase is mostly accounted for by the number of chickenpox cases notified—100 compared with 15. There is a slight increase in the number of cases of diphtheria. Of the non-notifiable infectious diseases measles was present in epidemic form during the early part of this year, and caused 11 deaths. It is to this cause that our increased death-rate is due. The deaths occurred amongst children under 5 years, and although arrangements were made for the nursing of severe cases by the District Nursing Association and to admit to Hospital complicated cases, it is too frequently found that the first indication of the case is the death certificate. Measles ought to be a notifiable disease. It is true that a medical man is often not called in until some complication occurs, but the parent is the person primarily responsible, and notification would enable us to impress his responsibilities upon him and also emphasise the danger of this disease. Through notification from school teachers and cases met with by the health visitors 452 cases came to the knowledge of the department during the year.

Diphtheria.—There was an increase of 15 in the number of cases of diphtheria notified compared with 1923. Notwithstanding this, the number of notifications is much below that for former years. Most of the cases occurred in the early months, and by the end of the year the notification had fallen to a very low level. Thirty-two of the cases were amongst children under 15 years of age. There was only one death.

As mentioned in last year's report, it is now possible to produce immunity against diphtheria with little inconvenience and no danger. No action has been taken in this direction, chiefly because of the small number of parents who are likely to accept the treatment, and also because of the comparatively slight danger to the average child. In the event, however, of the disease becoming more prevalent it is a line of action full of hope.

Scarlet Fever.—The cases of scarlet fever notified during the year was practically the same as in 1923—77 and 74. This is

much lower than the years immediately preceding. The type of disease is still very mild, but an occasional severe case is met with. There was one death, a well-marked septic type.

Enteric Fever.—The 5 cases of enteric fever notified during the year consisted of two cases of infection by the bacillus typhosus and two by para-typhosus B. and one by para-typhosus A. In none of the cases could a definite source of infection be traced, but there was no evidence that infection had taken place in Chester. In one case the patient was brought home ill from Ellesmere Port, where she lived and worked. In another the patient was accustomed to take long bicycle rides and have snacks at various places in the neighbourhood. There were no deaths.

Smallpox.—There has been no case of smallpox.

Pneumonia.—This condition was notified on 131 occasions, compared with 126 in the previous year. It will be seen from the table that 28 of those cases were amongst children under 2 years of age, and that 15 of the cases died, giving a case mortality of 53·5 per cent. Sixty-seven children under 15 years of age suffered from the condition, being just over 50 per cent. of the cases. The case mortality falls rapidly after the second year of life, and in those from birth to 15, it is 26·8 per cent. Forty-two of the cases were removed to the Royal Infirmary and nursed there. Deaths from this cause numbered 30, or a case mortality of 22·9 per cent.

Erysipelas was notified on 8 occasions, two less than the previous year. Two deaths occurred.

Puerperal Fever was notified twice, and both patients died. One case was removed to St. James' Hospital, and died soon after admission; and the other case was notified after death.

Chickenpox.—This disease is of great importance because of the similarity in the signs between it and smallpox, and the possibility of confusion between the two conditions. Because of this danger it was made notifiable in August, 1923, and since then practically every notified case has been seen so as to avoid, if possible, any mistake by overlooking a case of smallpox. Many cases are, however, never notified, and there is a distinct risk of error occurring. One hundred cases were notified during the year, and there has so far been no difficulty in confirming the diagnosis made.

Ophthalmia neonatorum was notified on four occasions. The microscopic examination of material from the eyes was positive in one

case only. The cases were either treated at home with collosol argentum or in the Royal Infirmary. In all cases recovery is stated to have taken place without injury to the eyesight.

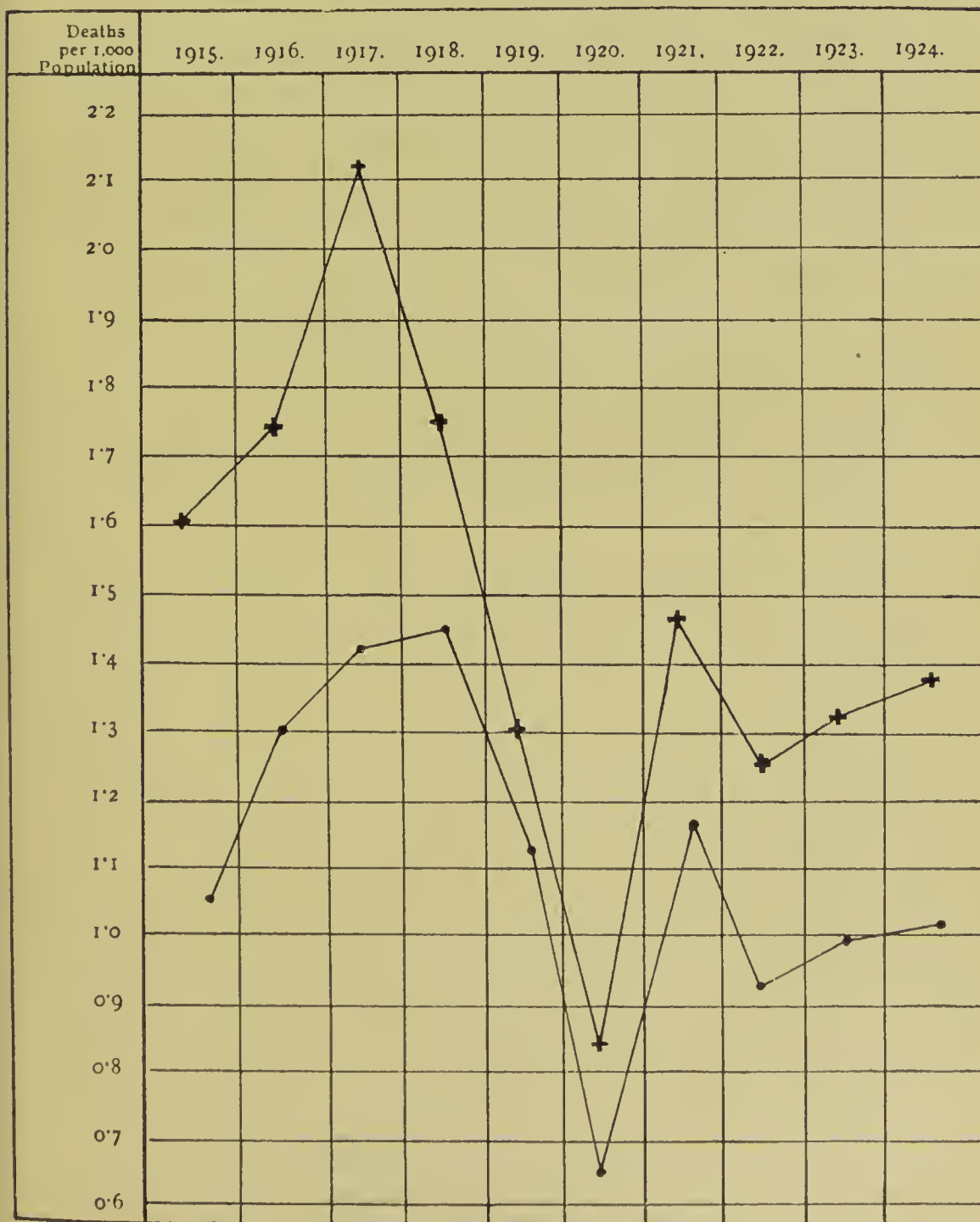
Tuberculous Disease.—The notifications of tuberculous disease of all forms numbered 69, compared with 74 in the previous year and 58 in 1922. Of these, 47 were cases of lung disease (23 males and 24 females), compared with 51 in the previous year and 34 in 1922.

The following table sets out the notifications of tuberculosis received during the year:—

AGE PERIODS.	NEW CASES.				DEATHS.			
	Pulmonary.		Non-Pulmonary.		Pulmonary.		Non-Pulmonary.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Under 1	1	0	1	0	1	0	1	0
1 to 5	1	2	3	4	1	1	3	4
5 to 10	0	1	2	1	0	0	0	0
10 to 15	0	0	2	1	0	1	1	1
15 to 20	2	2	0	2	2	1	0	0
20 to 25	2	4	1	1	4	2	0	0
25 to 35	4	8	3	1	2	2	1	0
35 to 45	9	4	0	0	6	4	0	0
45 to 55	3	1	0	0	4	6	0	0
55 to 65	1	2	0	0	5	3	0	0
65 and upwards	0	0	0	0	1	1	0	0
TOTALS	23	24	12	10	26	21	6	5

Deaths from tuberculosis of the lungs numbered 47, compared with 42 in 1923 and 39 in 1922. Other forms of tuberculosis provided 22 notifications (12 males and 10 females), compared with 23 in the previous year and 24 in 1922. Deaths from this type of the disease numbered 11, compared with 13 in the previous year and 11 in 1922.

Diagram showing the trend of the death-rate from tuberculous disease in the last ten years:—



●—● = Pulmonary Tuberculosis
 +—+ = All Tuberculous Disease

The accompanying diagram shows the trend of the tuberculosis death-rate in the last ten years. The very low rates recorded in 1920 are probably exaggerated, as the population that year was over-estimated. Apart from the irregularities during the war years, the interesting point is the rise in the last two years. The long continued unemployment must have a deleterious effect, and it is probable that the rate may rise higher for a few years to come.

4. Causes of Sickness.

Measles was prevalent during the early part of the year, and unfortunately caused a number of deaths amongst children. The other notifiable infectious diseases have not been unduly prevalent, but chickenpox has been notified on 100 occasions. Towards the end of the year a mild form of influenza became very common, and caused much absence from school and business. Although the disease was not of a severe type, convalescence is said to be very slow.

5. Summary of Nursing Arrangements.

Hospitals and other Institutions available for the District.

Professional Nursing in the home:—

(a) General.—The District Nursing Association undertakes home nursing, either at the request of a parent or of a medical man.

(b) By arrangement with the Local Authority, the Association also helps in the home treatment of school children suffering from minor ailments, and in times of epidemic in the treatment of measles and whooping cough. For this work a grant of £50 a year is given.

The Chester Benevolent Institution attends a large proportion of the midwifery cases in town, and in the case of necessitous mothers pays the doctor's fee where medical help has to be called. It has also the nucleus of a maternity home, two beds in the Institution, which may be used by the Local Authority for necessitous cases. An excellently situated house is at present being converted for use as a maternity home, where 8 beds will be provided. The Local Authority have undertaken to retain 2 beds, and to make an annual payment of £450, besides giving £1,000 for capital expenditure.

The Local Authority does not subsidise or employ any midwife. There are now 24 midwives practising in the City, of whom 6 work in connection with the Benevolent Institution.

The Chester Royal Infirmary continues to do useful work for Chester and North Wales. During 1924, the patients receiving

inpatient treatment numbered 2,347, and the outpatients 8,287. By arrangement with the Local Education Authority, cases of defective vision enlarged tonsils and adenoids are treated at an annual cost of £155 to the Education Authority.

St. James' Hospital.—The Board of Guardians have modernised their hospital arrangements and accommodation, and now have an efficient hospital of 250 beds. The hospital has recently been approved by the General Nursing Council for England and Wales as a training school for nurses, in affiliation with the Birkenhead Union Infirmary. There is also excellent accommodation for a limited number of mentally defective girls.

The following Clinics or treatment centres are provided by the Local Authority with the exception of the Orthopædic After-Care Clinic, which is conducted by a local voluntary committee under the auspices of the Cheshire Federation of Maternity and Child Welfare the Local Authority providing the rooms.

Maternity and Child Welfare, Crook House, Crook Street.—The work is carried on by a local voluntary committee with the help of the Health Visitors of the Local Authority, the Authority also providing the rooms and medical attendant. The premises are totally insufficient, and it is hoped that we shall be in new premises in the course of a few weeks.

School Clinic (Inspection, Treatment and Dental), Crook House, Crook Street.—Those clinics are carried on in part of the same building as the Maternity and Child Welfare Clinic, and premises are similarly inadequate. New quarters are being provided and ought to be occupied in the course of a few weeks.

Tuberculosis Clinic, 15, St. John Street.—The accommodation is a large waiting room, doctor's consulting room, dispensary, and a room used by the Orthopædic After-Care Clinic. The premises are used by the County Authority on two days a week, similarly by the City Authority—two days in the morning and one evening, and once a week by the Orthopædic Clinic.

Veneral Disease Clinic, at the Chester Royal Infirmary.—Besides the out-patient department, there are four beds retained for the joint use of the City of Chester and the Counties of Denbigh and Flint, while the County of Chester also send patients there, although not partners in the scheme.

Orthopædic After-Care Clinic.—This clinic opened in June, 1922, and carried on by a sub-committee of the Cheshire Federation of

Maternity and Child Welfare. It has now been handed over to a County Orthopædic After-Care Committee, with a local executive committee to manage the clinics already established—Crewe and Chester. The work has been a very marked success from the beginning, and the large numbers attending are evidence of the great need for such work. The expert work is done through the Shropshire Orthopædic Hospital, where operative work is done, and from which an orthopædic surgeon visits the clinic at regular intervals. A trained sister visits every week, and the after-care both at the clinic and in the homes is carried out by the members of the Red Cross Society and the Society of the Order of St. John of Jerusalem, and without this help we could not carry on.

At the end of the year, 144 patients were on the books of the clinic, about half of which were Chester cases. The work is largely dependent on voluntary subscriptions. The tuberculous patients are paid for by the Local Authority with contributions from parents and a grant from the Exchequer. The deformities resulting from rickets, infantile paralysis, etc., are paid for by voluntary subscription, except for the few children of school age. Since the opening of the clinic, £703 have been expended on the treatment of the non-tuberculous Chester cases.

Maternity and Child Welfare.—There are four nurses devoting their whole time to the supervision of children from birth to the time they leave school, advising mothers as to the management of their children, and advising expectant and nursing mothers, enquiring into the causes of infant deaths and still-births, helping in the supervision of midwives and in the conduct of the Maternity and Child Welfare Clinic.

The Clinic, carried on by a voluntary committee, meets twice a week for the weighing of babies, giving of general advice and health talks to mothers, and for consultation with the medical attendant. During the winter months a third meeting is held for the cutting out and making of children's garments and making new garments from old. It is hoped next winter, when we are in more convenient premises, that the activities will be increased.

The following is a statement of the attendances made at the Clinic during 1924:—

Babies attending	217
Visits of babies	1405
Children attending	319

Visits of children	2082
Expectant mothers	85
Visits of expectant mothers	253
Number of weighings	550
Infants seen by Doctor	200
Children 1 - 5 years seen by Doctor	150
Expectant mothers seen by Doctor	38

The notified births during 1924 numbered 889, and of these, 764 were regularly visited, the remainder having been noted by their medical attendant as not requiring visiting.

In this work and in that of investigating the causes of still-birth and infant deaths, the nurses made 8,083 visits, the details of which are given below:—

Health Visitors' Report.

Total number of birth notifications during the year	889
(of this number, 47 were notified late, 34 by doctors, and 13 by midwives).	
Cases attended and delivered by doctors	125
Cases attended and delivered by midwives	764
Number of still-births	35
(Midwives' cases, 20; Doctors' cases, 15).	
Primary birth visits	729
Return visits	2340
Visits of children between ages 1-5	2588
Visits to expectant mothers	176
Other visits (infectious disease, etc.)	397
Visits to midwives	40
Total visits	8083

Under the Milk (Mothers and Children) Order, 1918, milk was supplied free to 1,078 cases—140 more than in the previous year. The financial circumstances of the family are inquired into before milk is given, and in certain cases where the milk allowed would make no material difference to the family, they are reported to the Guild of Social Welfare or to the Guardians. The Local Authority has had again to give milk grants to a number of people in receipt of poor relief.

The supply of dentures to expectant and nursing mothers has been in abeyance for part of the year owing to the difficulty in collecting contributions from patients. Each case is considered by the committee and a suitable contribution by the patient agreed upon. The

patient, notwithstanding, willingly agreeing to the payment, too often forgets her obligation. It is hoped by altering the procedure to get more satisfactory results.

The Notification of Births Act continues to be carried out in a satisfactory manner.

There are 24 midwives practising in the City, all being certified. Of those, 6 work in connection with the Chester Benevolent Institution, which in cases where its nurses have to call in medical help, also pays the medical fee. The supervision of midwives has been carried on as in former years. Their bags, persons, and registers are seen at the beginning of the year, and as occasion arises during the year they are written to or personally interviewed in connection with their work. In addition, the senior health visitor visits their homes, and sees that they are satisfactory.

There was occasion to reprimand one midwife during the year. The fault was imperfectly kept temperature chart and failure to visit the mother twice daily during the first three days.

Of the 764 births attended by midwives, 82 cases required the calling of medical help for the following reasons:—

Feebleness of child	6
Prolonged labour or unusual presentation	3
Complications before labour	7
Complications during labour	18
Complications after labour	14
Rise of temperature	7
Discharge from eyes	7
Deformity of infant .....	...
Lacerated perinæum	14
Abortion	3
Skin affections (child)	3

There were 35 still-births registered during the year, 20 being in the practice of midwives. Those last were investigated, and the probable causes found to be as follows:—

Disease or ill-health of mother	1
Accident of parturition	1
Accident to mother	1
Overwork	1
Prematurity	4
Twin pregnancy	2
Difficult labour	8
No satisfactory reason	2

Under the provisions of the Midwives Act, the Local Authority paid the whole or part of the doctor's fee in cases where the midwife had to call for medical help. The fee was paid in 12 cases. Each case is judged on its merits, and the Authority's liability assessed by the Maternity and Child Welfare Committee.

Notification of artificial feeding is a comparatively rare occurrence, only 14 such notifications being received during the year. The reasons assigned for the abandonment of natural feeding were--doctors' orders (1), no breast milk (2), breast abscess (3), mother refuses (1), ill-health of mother (4), mother to return to work (7).

Ophthalmia neonatorum was notified on four occasions. All made good recoveries without injury to the sight. One of the cases was nursed in the Royal Infirmary.

During the year, Health Visitors reported 40 sanitary defects, which were all attended to. Many cases of over-crowding, both moral and physical, continue to come to our notice, but so far it is seldom possible to make provision for better circumstances.

The School Clinic.—In connection with school medical inspection, three clinics are held. In the morning, an inspection clinic, where advice as to minor ailments is given and treatment arranged for; and much of the following-up of defects is done. In the afternoon, a treatment clinic is held, where minor ailments such as ringworm, inflammation of the eyes, discharging ears and common skin affections, are treated. A dental clinic meets each morning, where defects found by the dentist at dental inspections are treated.

A clinic for the prevention and treatment of tuberculosis is held every Monday between 11 and 12, and every Thursday between 11 and 12 and 6 and 8 in the evening. Through the clinic and by visits to the homes of patients by the tuberculosis officer and by the nurses, close touch is kept with practically all notified cases.

During the year, the following work has been done at the clinic:—

Number of—

Patients attending the clinic	170
Attendances at clinic	481
New cases attending	69
of contacts examined	5
Visits to homes by nurses	436

During the year institutional treatment, either in Sanatorium or Hospital has been given to 54 patients, 30 of the cases being pulmonary and 19 non-pulmonary.

The Institutions to which cases have been sent are the Cheshire Joint Sanatorium at Burntwood for pulmonary disease (13 cases), Tuberculosis Pavilion, Sealand, for more advanced pulmonary cases (12 cases), Shropshire Orthopædic Hospital for non-pulmonary disease (8 cases). In addition, 11 children suffering from non-pulmonary disease have been treated either wholly or partly in the Pavilion at Sealand, where heliotherapeutic treatment has been practised so far as possible, and with very gratifying results, particularly in skin and gland cases.

The Guild of Social Welfare act as an After-Care Committee in giving temporary help as required, and in finding suitable employment for cases fit for work. The Local Pensions Committee also give help in cases coming under their jurisdiction.

The Venereal Disease Clinic is held at the Royal Infirmary on the following days and hours:—Mondays and Wednesdays, 5 to 7 p.m.; Thursdays, 1 to 3 p.m.; and Saturdays, 12 to 2 p.m.

The clinic is also open all day for irrigation, and trained assistants are in attendance. The districts served by the clinic are the City of Chester, the Counties of Denbigh and Flint; while, in addition, a considerable number of patients attend from the County of Chester, although Cheshire has not officially joined the scheme.

During the year, 67 new cases from Chester attended the clinic, compared with 66 in the previous year. The conditions they were suffering from were as follows, the two previous years being given for comparison:—

	1922.		1923.		1924.
Syphilis	32	...	23	...	32
Soft chancre	0	...	0	...	1
Gonorrhœa	30	...	27	...	25
Other conditions	4	...	3	...	9
Total attendances made by patients			1218		
Aggregate number of in-patient days			187		

During the year, 302 doses of salvarsan substitutes were given.

The following table sets out the total work of the clinic during the year:—

	No. of Patients who were under observation or treatment on 1st Jan. 1924.		No. of Patients dealt with for the first time.		TOTAL.
Syphilis	147	...	118	...	265
Soft chancre	0	...	1	...	1
Gonorrhœa	142	...	108	...	250
Syphilis and gonorrhœa ...	0	...	0	...	0
Conditions other than venereal	0	...	21	...	21
Total	289	...	248	...	537

Total attendances of all patients at the out-patient clinic:—

For individual attention of medical officer	3865
For intermediate treatment	341
Aggregate number of in-patient days	392

The pathological laboratory attached to the clinic has examined the following specimens:—

For detection of spirochetes	2
„ „ „ gonococci	42
For Wasserman reaction	162
	<hr/>
	206
	<hr/>

In March, a week's propaganda work was undertaken, when lectures were given by Mr. T. Bower Parkington, F.I.L., from the Central Association. The lectures were illustrated by films, the following being shown: "Whatsoever a man soweth," "Venereal Diseases," "The Public Health Twins at Work," "Damaged Goods," "Waste," "The End of the Road," "The Shadow." From the point of view of numbers attending the lectures the week was a success. The total number of the audiences was about 3,000, and the knowledge of the dangers of venereal diseases must be wider spread. No difference was, however, apparent in the numbers attending the clinic, which perhaps, considering our small population, was hardly to be expected.

Notices have been kept posted in public conveniences giving the place and hours when treatment could be obtained.

Hospitals provided or subsidised by the Local Authority.—The Local Authority provides an infectious diseases hospital at Sealand. There are 64 beds provided for infectious diseases, and agreements have been made with certain Authorities in the neighbourhood for the use of a certain number of beds. The Chester Rural District retain 5 beds, Hoole Urban District 4 beds, and Tarvin 8 beds, while the Medical Superintendent can give extra accommodation if it is available.

There is, also at Sealand, provision made for the treatment of 26 cases of advanced tuberculosis. The pavilions for this purpose are situated in a field adjoining the hospital grounds proper, and are administered from the same administrative block. Of the 26 beds provided, 6 have been let to the County Authority.

There is also at the hospital a discharge block, steam laundry, disinfection station, mortuary and garage. The overcrowded con-

dition of the administrative block mentioned in last year's report continues, it having been impossible as yet to make any addition.

During the year, 244 patients were treated in hospital for some form of infectious disease, and in addition, 37 who were suffering from tuberculosis.

The following table shows the number of patients treated, under different disease headings, and the districts from which patients came:

	Scarlet Fever.	Diph- theria.	Enteric.	German Measles	Enceph- litis Lethar- gica-	Other Con- ditions.	Tuber- culosis
City of Chester	67	52	...	6	1	8	23
Chester Rural District ...	25	3	1	1	...	1	...
Hoole	6	3	...	...	...	...	...
Tarvin	5	5	...	...	...	...	...
Flint	4	...	16	...	...	...	...
Military Authorities	1	...	...	...	...	...	...
Connah's Quay ... ..	...	1	...	...	...	...	...
Holywell U.D.C.	1	...	...	...	...	...	...
County of Chester .. ..	...	...	...	...	...	...	14
TOTAL	109	64	17	7	1	9	37

The total number of cases dealt with is increased, but the numbers of both scarlet fever and diphtheria cases are less. A number of double infections were admitted, e.g., scarlet fever and diphtheria, scarlet fever and chickenpox, measles and pneumonia; and this and the variety from other causes has led to practically all the wards being open, and has made the nursing arrangements somewhat difficult.

There were 14 deaths in hospital during the year, 11 being of City patients, and 8 of the 11 being from pulmonary tuberculosis.

In addition to the treatment of infectious disease, 135 children have been treated at the cleansing station.

6. Laboratory Work.

The Municipal Laboratory is available for the bacterial examination of pathological or suspected material sent by medical practitioners in town. The work is done free. In those cases where a fee could reasonably be charged the material is generally sent to the John Elliot Memorial Laboratory at the Chester Royal Infirmary. Besides clinical material sent by practitioners, the laboratory is used for the bacteriological examination of swabs from all diphtheria contacts, and for the laboratory work of the Isolation Hospital. In addition, all the filters in use by the Chester Waterworks Company and the

clear water reservoir and raw river water are examined bacteriologically every fortnight; and water from a consumer's tap is examined chemically every month.

During the last two or three years a large number of milks have been examined bacteriologically, and this work is necessarily being greatly extended so as to keep an adequate control of the milk supply.

The following is a statement of the work done throughout the year:—

Laboratory Work, 1924.

Material	Examined for	Positive.	Negative.	Total.
Swab	Diphtheria germ	64 ...	526 ...	590
Sputum	Tubercle bacillus	19 ...	86 ...	105
Urine	Albumen	3 ...	6 ...	9
Hair	Ringworm fungus	36 ...	16 ...	52
Swab (eye)...	Gonococcus	1 ...	6 ...	7
Smear	Gonococcus	0 ...	1 ...	1
Urine	Bacillus typhosus	0 ...	3 ...	3
Faeces	Bacillus typhosus	7 ...	24 ...	31
Blood	Widal's reaction	15 ...	3 ...	18
Blood	Cell count	0 ...	0 ...	1
Total clinical examinations				817
Bacteriological Water examinations				186
Chemical Water examinations				12
Bacteriological examinations of Milk				62
Total examinations				1077

Water Supply.

The most important point in considering any water supply is the history of its source. It may be possible so to purify a heavily polluted water so as to make it safe for domestic use, but to depend entirely on purification is to put all our eggs in one basket, which, however carefully watched, is liable to accident. One of the urgent necessities in the case of Chester is the establishment of a controlling authority for the Dee Valley, so that all sources of pollution may be remedied and controlled. This question ought not to wait until some larger authority takes action; we are chiefly affected, and ought to take first place in action.

During the year, the river has been in flood very frequently, and colour has been a source of complaint. The source of the

colour is peat, and it has never been present in such quantities as to be harmful to health, although it may be aesthetically objectionable and harmful to certain manufacturing processes.

As frequently stated in former reports, no great dependance can be placed on the results of a chemical examination, but knowing the history of the water, some deductions can be drawn from such an examination. The chemical analysis results vary between very wide limits, depending on the amount of water in the river, as affecting the proportion coming from the uplands and that from the lower cultivated valley.

The results have been satisfactory. Only on one occasion was there some evidence of undesirable pollution. There has frequently been evidence of contamination of a vegetable nature.

The figures for the year's analyses are given below:—

CHEMICAL ANALYSIS OF CITY WATER SUPPLY, 1924.

Date 1924.	SOURCE.	Chlorine.	Free Ammonia.	Albuminoid Ammonia.	Oxygen absorbed in 1 hour.	Oxygen absorbed in 4 hours.
16th Jan.	Athol Place, Crook Street	1·2	·0011	·0107	·196	·388
13th Feb.	Posnett's Court, Watergate Row	2·2	·0003	·007	·042	·254
19th Mar.	Bramall's Court, Trinity Street	2·1	·0002	·008	·04	·098
16th April	Kiln Yard, Linenhall Street ... ..	...	...	·015	·034	·108
12th May	Edwards' Court, Princess Street	1·8	·0005	·0106	·1168	·2224
18th June	Trinity Court, Trinity Street	1·8	·0021	·0110	·116	·200
16th July	Valentine's Court, Upper Northgate Street	2·5	·0008	·0096	·076	·126
20th Aug.	Bramall's Court, Trinity Street	1·7	·0013	·0275	·132	...
17th Sept.	Holloway's Court, Crook Street	2·0	·0003	·0134	·200	·300
15th Oct.	Davies' Buildings, King Street ... ..	...	·0003	·0170	·192	·296
19th Nov.	Jonas' Court, Princess Street	1·9	·0016	·0132	·104	·188
10th Dec.	Davies' Court, Pepper Street	1·5	·0013	·0148	·1284	·244

Bacteriological Examinations.

This is the first year in which systematic examination of 100 c.c. of water for the presence of typical bacillus coli has been made. The old standard of 10 c.c. has also been applied, but as many authorities are now working to the higher standard with satisfactory results it is reasonable to adopt this.

The heavy rainfall throughout the year has kept the river in flood, or approaching that condition, for most of the time with resulting difficulties in purification. This is well shown in the results of bacteriological examination.

The water from each of the filters in work, from the clear water reservoir, from the consumer's tap, and from the raw river are

examined every fortnight. The examination of the filters helps to detect inefficient filtration, but the important water from the towns point of view is the clear water reservoir. That from the consumer's tap is of less value as the water may get contaminated at the tap, although means are taken to prevent this.

On the old standard of the absence of typical bacillus coli from 10 c.c. of water, the clear water reservoir was satisfactory in 66 per cent. of the samples, and water from the consumer's tap also in 66 per cent. of the samples. On the standard of the absence of typical bacillus coli in 100 c.c. of the water, the clear water reservoir gave 41 per cent. satisfactory, and the consumer's tap 53 per cent.

On the whole, the results are not entirely satisfactory. The year has been a trying one. As was predicted when the rapid filters were installed, they do not tend to lower the number of germs passing the filters, and while they lengthen the life of the sand filters they prolong the time before they become effective, and are acting inefficiently.

It would be better if the sand filters were "ripened" with unfiltered or sedimented water before the filtrate from the rapid filters is put upon them. The process would probably not be economical, but as at present worked the filters are not passing an entirely satisfactory water.

The following table sets out the bacteriological findings for the year:—

Bacteriological Examination

Date.	Unfiltered River Water.			Filter 1.			Filter 3.			Filter 4.		
1924	Gel. (1)	Agar. (2)	B. Coli (3)	Gel. (1)	Agar. (2)	B. Coli (3)	Gel. (1)	Agar. (2)	B. Coli (3)	Gel. (1)	Agar. (2)	B. Coli (3)
			5 1 01			10 100			10 100			10 100
Jan. 9	5300	820	— — x	13	G.O.	— —	10	2	— —	Not Running		
Jan. 23	14350	2190	— x —	19	2	— —	13	9	— x	17	5	x x
Feb. 6	2250	G.O.	— x —	10	1	— —	8	1	— —	8	1	— x
Feb. 28	—	—	— x —	16	4	— —	14	4	— —	Not Running		
Mar. 12	2700	155	— x —	4	4	— —	96	17	x x	Not Running		
Mar. 26	2000	220	— x —	22	3	— —	20	13	— x	19	3	— x
April 9	5800	2100	x — —	21	2	— —	7	2	x x	7	7	— —
April 23	2200	690	— x —	7	5	— —	18	G.O.	— —	Not Running		
May 7	1650	770	— x —	Not Running			44	16	— —	Not Running		
May 28	1700	85	— x —	Not Running			6	5	— —	23	3	— —
June 11	2300	610	— x —	Not Running			12	4	— —	Liq.	9	— x
June 25	650	300	x — —	26	24	x x	13	10	— —	12	G.O.	— —
July 9	2450	770	x x —	7	4	— —	17	4	— x	7	9	— —
July 23	19850	6800	x x —	9	5	— x	16	21	x x	16	4	— —
Aug. 13	1300	1050	x x —	51	8	x x	35	7	— —	110	59	— x
Aug. 27	Liq.	557	x x —	57	14	— x	6	7	— —	Not Running		
Sept. 10	26650	G.O.	x x x	3	11	— —	11	13	x x	Not Running		
Sept. 24	8100	*	x x x	59	*	— —	29	*	— x	Not Running		
Oct. 8	14900	3505	x x x	5	3	— —	Not Running			46	23	x x
Oct. 22	Liq.	Uncountable	— x x	12	6	— x	Not Running			38	4	— x
Nov. 12	2500	2225	— x x	4	12	— —	Not Running			12	6	x x
Nov. 26	1000	1130	— x x	21	6	— —	Not Running			3	3	— —
Dec. 3	11300	820	x x x	46	G.O.	x x	Not Running			Not Running		
Dec. 17	2100	2360	— x —	45	11	x x	62	17	x x	Not Running		

REFERENCE :—

*—Incubator out of order.

Liq.—Gelatine Liquefied.

of City Water Supply, 1924.

Filter 5.			Filter 6.			Filter 7.			Filter 8.			Consumers' Tap.		
B. Gel. Agar. Coli			B. Gel. Agar. Coli			B. Gel. Agar. Coli			B. Gel. Agar. Coli			B. Gel. Agar. Coli		
(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
10	100		10	100		1	10		10	100		10	100	
Not Running			24	3	—	28	10	—	30	3	—	12	G.O.	—
Not Running			31	6	—	52	8	—	30	4	x	24	5	—
Not Running			5	4	—	9	4	—	9	4	—	5	3	—
Not Running			9	12	—	186	74	—	12	21	—	5	G.O.	—
Not Running			117	16	—	100	16	x	110	14	x	205	9	x
Not Running			15	2	—	10	4	—	20	5	—	21	2	—
Not Running			15	4	—	12	9	—	10	4	—	15	G.O.	—
Not Running			7	9	—	8	G.O.	—	15	9	—	18	10	—
Not Running			17	31	—	52	G.O.	—	39	G.O.	—	32	11	—
Not Running			9	2	—	17	4	—	52	8	—	31	7	—
Not Running			7	7	—	7	4	—	33	9	x	17	9	x
15	42	—	8	8	—	9	11	—	26	39	—	11	G.O.	—
Liq.	39	—	24	13	—	Liq.	43	x	10	15	—	Liq.	13	—
5	12	—	13	G.O.	—	21	11	—	8	6	x	7	11	—
175	113	—	150	61	—	96	53	—	71	11	—	54	5	—
Liq.	8	x	Liq.	10	—	Liq.	19	—	Liq.	10	x	Liq.	10	x
34	19	—	9	12	—	15	10	x	20	16	x	15	35	—
36	*	x	23	*	—	43	*	—	55	*	—	42	*	—
10	10	—	12	9	—	12	4	—	10	3	—	18	3	x
44	16	x	30	4	—	8	4	x	45	17	—	33	20	x
15	7	—	11	11	—	5	3	x	6	6	—	10	5	—
33	3	—	13	3	—	18	2	—	32	2	—	37	9	x
57	7	x	16	G.O.	—	19	3	x	Liq.	10	x	31	G.O.	x
22	28	x	16	21	—	16	16	x	45	G.O.	x	23	26	x

G.O.—Agar Grown over.

x—Positive.

—Negative.

List of Adoptive Acts, Bye-laws and Local Regulations in force in the District.

Public Health Acts Amendment Act, 1890.
 Infectious Diseases (Prevention) Act, 1890.
 Notification of Births Act, 1907.
 Public Health (Prevention and Treatment of Disease) Act, 1913.
 Public Health (Tuberculosis) Act, 1921.
 Rats and Mice (Destruction) Act, 1919.
 Baths and Wash Houses Act, 1907.
 Private Street Works Act, 1892.
 Public Improvements Act, 1860.
 Chester Improvements Acts, 1845, 1884.
 Bye-laws as to Obstructions, Encroachments and Nuisances, 1879.
 Bye-laws under the Dairies, Cowsheds, and Milkshops Order, 1885, 1904.
 Bye-laws for the Regulation of Slaughter-houses, 1909.
 Bye-laws for the Regulation of Common Lodging-houses, 1909.
 Houses and Parts of Houses Let in Lodgings Regulations, 1867.
 Bye-laws in respect of Nuisances, 1887.

7. Sanitary Administration.

Sanitary Inspection of the District.

Canal Boats Acts, 1887 and 1884.

The total number of canal boats registered under the above Acts in 1924 was 460. There were two new registrations and six cancellations.

The inspection of 124 boats showed 5 contravening the regulations and the defects were remedied on the service of notices. The cabin accommodation is sufficient for 424 persons, but the actual population is only 389. This number included 137 adult males, 105 adult females, 86 children of school age, and 61 under five years. Particulars of the work done will be found at the end of the report.

Factory and Workshops Act, 1909.

The number of factories and workshops on the register at the end of the year was 177—five less than last year. The type of work carried out was as follows:—

Dress	56
Boot and Shoe	11
Bakehouses	38
Cabinet-making	4
Miscellaneous	68
	<hr/>
	177
	<hr/>
Visits made	242
Defects found	24
Defects remedied	24

Sanitary condition of Schools.

The sanitary condition of schools is kept satisfactory by inspection during routine inspections and having the defects remedied as they arise.

Home Workers.

The homes of out-workers were regularly inspected and found satisfactory. Thirty-nine lists were received by the department, giving particulars of 50 persons.

Food Inspection.

During January and February, the prevalence of foot and mouth disease restricted the movement of cattle into the City, and slaughtering was confined to certain slaughter-houses. Queen Street slaughter-house was taken over by the Board of Agriculture for the purpose of salvaging stock from infected farms. .

During this period, there was an inspector constantly on duty in the slaughter-house, including Sundays, and 2,117 head of cattle, pigs, sheep and calves were slaughtered and examined before sale for human consumption. These salvage operations caused a considerable increase in the work of the department. Throughout the year all the slaughter-houses were frequently visited and the carcasses of the animals slaughtered there inspected.

The irregular hours of slaughter and the scattered situation of the slaughter-houses made it a practical impossibility for every carcass to be inspected, though every effort was made to do this. So far as the structures will permit, the general cleanliness of the slaughter-houses has been reasonably satisfactory.

There were no contraventions of the Bye-law for the humane slaughtering of animals, and the administration of the Bye-law gives no trouble.

Some of the premises where food is prepared are not satisfactory.

In routine inspection, much unsound food has been condemned. In many instances requests have been made by the butchers, when in doubt, for the inspection of carcasses, and the food condemned has been, with one exception, voluntarily surrendered and destroyed. The exception was when twelve pieces of meat were exposed for sale in a butcher's shop. The thirteen pieces were found to be affected with tuberculosis, and a Magistrates' Order was obtained for their destruction. Subsequent proceedings in the Summary Court resulted in the butcher being fined £2 in respect of each piece of meat condemned—a total fine of £26.

Arising out of the observations of the Magistrates, proceedings were instituted, for aiding and abetting, against the wholesale butcher supplying the meat. After a lengthy hearing, the case was dismissed on "technical" grounds.

The number of instances where food stuff was condemned is shown in the following tabulation:—

Beef—Carcases and offal	9
Portions of carcases	22
Mutton and lamb—Carcases and offal	23
Pork—Carcases and offal	53
Heads	34
Veal—Carcases and offal	8
Imported portions of beef carcases	6
Tins of liquid eggs	5
Cans of corned beef	3
Ducks	2
Suet	1
Fish (in boxes)—Herring	1
Cod	1
Kippers	6
Plaice	1
Barrel of crabs	1
Sausages—Luncheon	1
Cambridge (bundles)	8

In addition, there were $8\frac{1}{2}$ cwts. of meat offal condemned on account of localised disease, including abscess and parasitic invasion.

The estimated weight of condemned food was 6 tons, 7 cwts., 1 qr., 0 lbs., and offal, 8 cwts., 2 qrs., 0 lbs.; or a total weight of 6 tons, 15 cwts., 3 qrs., 0 lbs.

The reason for condemnation was as follows:—

Tuberculosis—

Carcases of beef	9
Portions of carcases of beef	22
Carcases of pork	15
Pigs' heads	34
Mutton and lamb—Dropsy and emaciation ...	17
Febrile	3
Septicæmia	2
Immature	1
Calves—Immature	4
Nephritis	2
Joint ill	1
Umbilical pyæmia	1

Pigs—Immature	34
Pyæmia	2
Febrile	2

The remainder of the condemned food was decomposed.

In the inspection of meat and other foods the following visits have been made:—

Slaughter-houses	326
Butchers' shops	325
Fishmongers' shops	255
Other food shops and stores	320
	<hr/> 1226

SALE OF FOOD AND DRUGS ACTS, 1875-1907.

The following table sets out the samples of food submitted for analysis under the above-named Acts:—

Name of Article.	No. not Genuine.	No. Genuine.	No. taken formally.	No. taken informally.	Totals.
Milk	9	40	46	3	49
Butter	2	12	13	1	14
Cream ... ..	...	7	7	...	7
Lard ... ..	...	4	4	...	4
Rice ... ..	...	4	4	...	4
Sweets	1	3	4	...	4
Baking Powder ...	...	3	3	...	3
Biscuits ... ..	...	3	3	...	3
Cake ... ..	...	3	3	...	3
Margarine ... ..	...	3	3	...	3
Beer ... ..	...	2	2	...	2
Brawn	2	...	2	...	2
Cheese ... ..	...	2	2	...	2
Coffee ... ..	...	2	2	...	2
Custard Powder ...	...	2	2	...	2
Condensed Milk ...	...	2	2	...	2
Flour ... ..	...	2	2	...	2
Honey ... ..	...	2	2	...	2
Jam ... ..	...	2	2	...	2
Malt Vinegar ... ..	...	2	2	...	2
Sausages	2	...	2	...	2
Whisky ... ..	...	2	2	...	2
Castor Sugar ... ..	...	1	1	...	1
Dried Eggs ... ..	...	1	1	...	1
Pepper ... ..	...	1	1	...	1
Potted Shrimps ...	1	...	1	...	1
Toffee ... ..	...	1	...	1	1
	17	106	118	5	123

Of the total samples analysed, 13·82 per cent. received adverse reports. There were 49 samples of milk analysed, of which 18·3 per cent. were found to be unsatisfactory.

One sample was deficient in 9·3 per cent. of fat; one contained 0·6 per cent. extraneous water; 7 contained sediment, varying in

quantity from 5 to 14·7 parts per 100,000, and 4 of these samples also contained extraneous water. It is a damning comment on modern dairying that more than 14 per cent. of the milk samples analysed had been polluted by the presence of sediment containing from '25 to '75 per cent. of dung.

This extremely liberal standard of action on the presence of cow dung in milk was doubtless justified at the time of its introduction, but we now have accurate methods for estimating the degree of real pollution, in the estimation of the number of germs present, and to a certain extent their type; and the provisions of the Milk and Dairies (Amendment) Act, 1922, gives us power to take much more satisfactory action. Section 2 of that Act empowers a Local Authority, "if they are satisfied that the public health is or is likely to be endangered by any act or default of any person who is registered or seeks to be registered as a retail purveyor of milk in relation to the quality storage or distribution of milk serve upon him a notice to appear before them not less than 7 days after the date of the notice to show cause why the Local Authority should not refuse to register him or remove him from the register as the case may be." There is no doubt that a person selling milk containing an excessive number of germs is endangering the public health, and action can accordingly be taken.

One sample of rice was found to be faced with steatite. The use of steatite is apparently to give a better appearance to what would otherwise be a very ordinary looking article. Seventy-five per cent. of the rice samples purchased, and analysed by the Public Analyst, have been free from steatite.

A sample of butter obtained informally contained 15 per cent. of cocoanut oil, and as the purchaser resided outside Chester the necessary information was forwarded to the Inspector for the Authority concerned.

One other butter sample contained 16·22 per cent. of water, or 0·22 per cent. of water in excess of the prescribed limit.

Analysis showed the following foods to have added preservatives: 7 samples of cream, 3 margarine, 2 butter, 2 cakes, 2 sausages, 1 brawn, 1 jam, and 1 potted shrimps. The preservative used in the jam was '013 per cent. of salicylic acid, and that used in the remaining 18 samples was boric acid, ranging from '017 to '45 per cent.

The nineteen samples containing preservatives is equal to 15·4 of the samples analysed.

The following table sets out the analyses and the results of legal proceedings when such were taken:—

No. of Sample.	Name of Article	Result of Analysis.	Result of Legal Proceedings or action taken by the Committee.
7	Butter	Contained 15 per cent. coconut oil	...
18	Potted Shrimps	Contained preservative equal to 31·5 grains per lb. of boric acid, and in the fat 32·2 grains per lb.	This sample was obtained informally, and as the purchaser resided in another district the necessary information was forwarded to that Authority. Proceedings were not instituted in this case, but the vendor's attention was called to the result of the analysis, and a warning letter was sent by the Town Clerk.
29	Milk	Contained sediment to the extent of 14·7 parts per 100,000, three-quarters of which consisted of dung	As the producer ceased to deliver milk in the City from the date of the purchase of this sample proceedings were not instituted, but the attention of the vendor was called to the result of the analysis.
43	Milk	Contained sediment to the extent of 10 parts per 100,000, quarter of which consisted of dung	Fined £3. This vendor was also fined 10/- for failing to have his name and address conspicuously inscribed on the vehicle.
44	Milk	Deficient in 9·3 per cent. of fat.	After considering the circumstances the Public Health Committee instructed the Town Clerk to call the vendor's attention to the result of the analysis and to issue a warning.
88	Butter	Contained 0·22 per cent. excess of water	A letter of warning was sent to the vendor by instruction of the Public Health Committee.
94	Milk	Contained sediment to the extent of 11·1 parts per 100,000, one-half of which consisted of dung	Fined £2 and 15/6 special costs.
95	Milk	Contained 0·6 per cent. extraneous water	Proceedings instituted. Case dismissed.
96	Milk	Contained 9·3 per cent. extraneous water and also 10 parts per 100,000 of sediment, one-quarter of which consisted of dung	Fined £2 and 15/6 special costs.
103	Milk	Contained 6·5 per cent. extraneous water and also 5 parts per 100,000 of sediment, one-half of which consisted of dung	Fined £3 and 15/6 special costs.
104	Milk	Contained 5·4 per cent. extraneous water and also 7·5 parts per 100,000 of sediment, one-quarter of which consisted of dung	Proceedings were instituted in respect of these samples. The Magistrates decided as they were a part of one consignment only one case would be heard against the farmer. Fined £5 and 15/6 special costs.
105	Milk	Contained 10·2 per cent. extraneous water and also 10 parts per 100,000 of sediment, one-half of which consisted of dung	

NOTE.—Samples Nos. 96, 103, 104, and 105, taken on different days from a retailer, a wholesale dealer, and a farmer, was milk derived from the same cattle.

The following statement shows the composition of the samples of milk examined:—

Date.	Sample No.	Fat %	Solids not Fat %	Date.	Sample No	Fat %	Solids not Fat %
Jan. 28	8	3'59	8'95	Sept. 16	64	3'46	8'75
	9	3'55	8'94		65	3'9	8'96
	10	4'15	8'68		66	3'3	9'0
	11	3'11	8'61		67	3'57	8'97
Jan. 31	12	3'55	8'72	Sept. 18	74	3'28	8'98
	13	3'27	8'9		75	3'31	8'99
	14	3'25	9'0		76	3'89	8'8
Feb. 29	25	3'04	8'66		77	3'9	8'8
	26	3'38	8'76		78	3'54	9'0
	27	3'42	8'89		79	3'09	9'17
	21	3'68	9'1	Nov. 11	92	4'24	8'75
April 25	35	3'48	8'96		93	4'14	9'4
	36	3'71	8'75		94	5'03	8'97
	37	3'79	8'91		95	4'1	8'45
	38	3'17	8'82		96	6'71	7'71
	39	3'41	8'76		97	4'47	9'01
May 27	40	4'22	9'09	Nov. 12	98	3'68	8'9
	41	3'80	8'74		99	4'26	8'54
	42	3'78	8'74	Nov. 13	102†	4'63	8'95
	43	3'07	8'99		103	3'58	7'95
	44	2'72	8'95	Nov. 14	104	3'58	8'04
	45	3'04	8'86		105	3'54	7'64
May 29	50	3'20	8'78		106†	4'49	8'40
Sept. 16	62	3'55	8'55	Nov. 15	107†	3'74	8'47
	63	3'68	8'89				

The samples marked † were obtained on farms immediately on the completion of the milking operations.

The average composition of the 49 samples analysed was Fat, 3'71 per cent. and Non-fatty Solids, 8'76 per cent. as compared with 3'91 per cent. Fat, and 8'8 per cent. Non-fatty Solids, respectively, in 1923. Although the average quality is lower this year than last the milk maintains a satisfactory standard of Fat and Non-fatty Solids.

Bacteriological Examination of Milk.

Eighteen samples of milk were submitted for examination for the presence of tubercle bacilli, and were tested at the John Elliot Laboratory, Chester Royal Infirmary.

One sample (No. 9) was found to be infected by tubercle bacilli. Notice was immediately served on the producer, calling his attention to Section 5 of the Milk and Dairies (Amendment) Act, 1922, which prohibits the sale of tuberculous infected milk.

The attention of the Medical Officer of Health for the district in which the milk was produced was also called to the matter. Subsequently, we were informed the diseased cow had been slaughtered, and a certificate was received from a Veterinary Surgeon to the effect that he had examined the remainder of the cattle and could find no evidence of the presence of tuberculosis.

Sixty-two samples of milk were submitted to a bacterial count, and also for the presence of bacillus coli. The procedure for

examination laid down by the Ministry of Health has been closely followed. Of the 62 examined, 17 or 27·4 per cent. contained more than 100,000 germs per cubic centimetre (about 20 drops). All, without exception, contained bacillus coli in 1 c.c., and 46 or 74·2 per cent. showed its presence in 0·1 cubic centimetre (about 2 drops).

In view of the fact that the majority of the milks are morning's milking and examined within 6 hours of production, the results are not good. In every case where the count is above 100,000 per c.c. the retailer and the Medical Officer of the district in which the milk is produced is written to, and at the same time directions as to the production of clean milk are sent.

Arrangements are being made to more than double the samples of milk examined, so as to keep an adequate control over the supply, and to give sufficient grounds for action should that be necessary.

The following table gives details of the examinations made:—

BACTERIOLOGICAL MILK EXAMINATIONS, 1924.

Month.	Sample No.	Germs per cubic Centimetre.	Bacillus Coli.			
			1'0	0'1	'01	'001
January	2	1	35,700	✓	×	
	2	2	242,000 *	×	×	
	16	3	49,000	×	×	
	16	4	12,750	×	×	
	30	5	38,000	×	×	
	30	6	101,500 *	×	×	
February	13	7	33,000	×	—	
	13	8	39,000	×	×	
	20	9	9,475	×	—	
	20	10	53,000	×	—	
April	2	11	292,500 *	×	—	
	2	12	81,500	×	×	
	23	13	40,500	×	×	
	23	14	230,000 †	×	×	
	30	15	15,700	×	×	
	30	16	33,900	×	—	
May	7	17	90,000	×	×	
	7	18	366,000 *	×	×	
	28	19	7,800	×	—	
	28	20	19,380	×	×	
June	11	21	69,000	×	×	
	11	22	Uncountable *	×	×	
	18	23	11,950	×	—	
	18	24	Over 1,000, 00 *	×	×	
	25	25	Uncountable †	×	×	
	25	26	57,000	×	×	
July	9	27	91,500	×	—	
	9	28	23,750	×	—	
	22	29	147,400 *	×	×	
	22	30	44,000	×	×	
	30	31	268,500 *	×	×	
	30	32	16,000	×	×	
August	13	33	792,000 §	×	×	
	13	34	289,000 *	×	×	
	20	35	471,000 *	×	×	
	20	36	5,000	×	×	
	27	37	430,000 †	×	×	
	27	38	20,000	×	—	
September	10	39	17,525	×	×	
	10	40	46,500	×	×	
	17	41	6,500	×	—	
	17	42	9,175	×	—	
	24	43	Incubator out of order	×	×	
	24	44	ditto	×	×	
October	8	45	41,500	×	×	
	8	46	12,900	×	—	
	15	47	16,500	×	×	
	15	48	74,500	×	—	
	22	49	210,000 (see Note)	×	×	
	22	50	43,000	×	×	
November	12	51	56,000	×	—	
	12	52	11,000	×	×	
	19	53	97,000	×	×	
	19	54	252,000 *	×	×	
	25	55	250,000 *	×	×	
	26	56	164,500 *	×	×	
December	3	57	30,860	×	×	
	3	58	69,000	×	×	
	10	59	108,000	×	×	
	10	60	395,000	×	×	
	17	61	30,300	×	—	
	17	62	8,350	×	×	

NOTE.—*In each case attention of Vendor drawn to large count, and Medical Officer of Health of district of supply written to. †Producer (who is also Retailer and resides within the City), written to. § Vendor, Wholsaler, and Medical Officer of Health district of supply written to.

SAMPLE No. 49.—Owing to the continued large counts, and the conditions under which the milk was stored, the Medical Officer of Health visited the premises. The

There are 95 persons registered to sell milk in Chester. For the purpose of classification, they have been divided into four groups, viz.:—

(1) Producers, Purveyors and Wholesale Dealers ...	6
(2) Producers and Wholesale Dealers	8
(3) Producers and Purveyors	30
(4) Purveyors	51
Total	95

Out of this number, 48 retail milk within the City only from vehicles. The conditions under which this section engage in the distribution of milk cannot be regarded as satisfactory, as we have not the authority to visit their premises to ascertain the precautions taken against contamination.

There are now two milks being sold in bottles in Chester. One a Pasteurised milk, which is sold unmarked in any way, and the other a "certified" milk properly labelled. The Pasteurised milk ought to be marked and sold as such so as to prevent confusion, but there is no means of enforcing this.

Remark has been made in former reports as to the advisability of wearing clean overalls or at any rate clean sleeves of washable material, but no milk retailer has had the enterprise to adopt this suggestion. Another improvement which would help in preventing contamination when milk churns are opened for the abstraction of milk is an awning or cover over the cart. The condition in which many of the milk carts are kept is also unsatisfactory. They are not regularly washed, and this and the lack of paint in many cases indicates a very low standard of cleanliness.

Dairies, Cowsheds and Milkshops Orders.

Work done under these Orders is detailed below:—

Registered cow keepers	16
Inspections of cow-sheds	21
Contraventions	6
Contraventions remedied	6
Dairies (including those attached to cow-sheds)	47
Dairy Inspections (City)	53
Contraventions	4
Contraventions remedied	4
Nature of contraventions in Dairies and Cow-sheds—	
Need of linewashing	6
Defective yard drains	2
Defective yard paving	2

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS,
1912-1917.

Report for the Year ended 31st December, 1924.

1. Milk and Cream not sold as Preserved Cream:—

	(a) No. of Samples Examined for the Presence of a Preservative.	(b) No. in which a Preservative was Reported to be Present.
Milk	4 ⁶	Nil
Cream	Nil	Nil

Nature of preservative in each case in column (b) and action taken under the Regulations in regard to it..... Nil

2. Cream sold as Preserved Cream:—

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label, as to preservative, were correct—

- (i) Correct statements made 7
(ii) Incorrect statements made Nil
(iii)

No. of Sample.	Percentage of Preservatives found in each sample.	Percentage stated on Statutory Label.
15	Boric Acid, 0·16 %	Not exceeding 0·4 %
17	„ 0·21 %	„ „
19	„ 0·22 %	„ „
46	„ 0·06 %	„ „
47	„ 0·25 %	„ „
48	„ 0·14 %	„ „
49	„ 0·38 %	„ „

(b) Determinations made of milk fat in cream sold as preserved cream—

- (i) Above 35 per cent. 7
(ii) Below 35 per cent. Nil

(c) Instances where, apart from analysis, the requirements as to labelling or declaration of preserved cream in Article V. (1) and the proviso in Article V. (2) of the Regulations have not been observed Nil

(d) Particulars of each case in which the Regulations have not been complied with and action taken Nil

3. Thickening Substances:—

Any evidence of their addition to cream or preserved cream. Action taken where found Nil

4. Other observations, if any Nil

REGISTRATION OF WHOLESALE DEALERS IN MARGARINE AND MARGARINE CHEESE.

The number of wholesale dealers in margarine on the register remains the same as last year—15.

The premises are kept in a satisfactory condition.

FRIED FISH SHOPS.

There are 35 premises occupied and used for the cooking of fish and chipped potatoes for sale by retail.

The premises are frequently visited during the day, and special night visits are made during the evening when cooking is in progress. Although the standard for cleanliness is fairly good, complaints are occasionally received in respect of the offensive odour arising from the fat used in the cooking operations. In those premises where lard only is used for cooking there is practically no cause for complaint.

THE EXPOSURE OF VARIOUS ARTICLES OF FOOD TO CONTAMINATION.

The Public Health (Meat) Regulations, which become operative on April 1st, 1925, are framed to provide more adequate inspection of food animals at the place of slaughter, and better conditions against contamination in storage, transport and retailing of meat. The Regulations require meat exposed for sale by retail to be protected from mud, dust and flies.

There are many other articles of food for which similar restrictions are needed, such as fish, cheese, fruit, and vegetables.

In the distribution of bread, we have not yet heard of any Chester bakery which has adopted bread wrapping on hygienic principles.

Many of our licensed premises are lacking in a good supply of hot water for cleansing drinking vessels. In several instances, which have come under notice, the facilities provided have been crude.

This is a matter at present receiving the attention of the department.

PUBLIC ANALYST'S REPORT.

Sale of Food and Drugs Act.

The following is the Public Analyst's report for the year:—

During the year 1924, 123 samples were received for analysis, and 11 were found to be adulterated, or in the proportion of 8·95 per cent.

The following is a list of the articles examined:—

Article.	Total Number.	Adulterated.
Milk	49	9
Butter	14	2. Boric Acid present in two samples.
Cheese	2	
Preserved Cream ...	7	Boric Acid under 0·4 per cent.
Lard	4	
Margarine	3	Boric Acid present in all.
Dried Eggs	1	Free from preservatives.
Potted Shrimps ...	1	32·2 grains of Boric Acid per lb.
Rice	4	One sample faced with steatite.
Condensed Milk ...	2	
Baking Powder ...	3	
Custard Powder ...	2	
Biscuits	3	
Cake	3	Boric Acid present in two samples.
Sugar	1	
Honey	2	
Pepper	1	
Jam	2	Salicylic Acid in one sample.
Sausages	2	Boric Acid present in both samples.
Brawn	2	Boric Acid present in one sample.
Sweets	5	
Beer	2	Free from Arsenic.
Whisky	2	
Coffee	2	
Flour	2	
Malt Vinegar	2	

Five of the adulterated milk samples contained extraneous water, and one was deficient in fatty solids; 7 of the samples also contained a dirty sediment of cow dung.

Prosecutions were instituted for 6 samples, and convictions obtained in 5 cases; and fines of from £2 to £5 and costs were inflicted.

Appeals to the cows were made in 3 instances, and the adulteration was confirmed by the milk obtained.

From the number of dirty and adulterated samples the milk supply of the year cannot be considered very satisfactory.

What is most noticeable is the variety of articles of food to which the preservative boric acid is added: it is present in butter, margarine, cream, cakes, sausage, brawn, potted shrimp—in the

articles examined, and although the amount in each is small (from 10 to 30 grains per lb.) a fairly large amount may easily be taken in a day with these various articles.

Two of the samples of sweets contained chloroform in the proportion of 4.1 and 6.3 grains per oz. It does not seem advisable that such sweets should be sold to children.

The custard powders consist of arrowroot and maize dyed yellow with an aniline dye. The name is certainly a very misleading one, as they are not true custard.

The condensed milk samples were satisfactory, and had been made from full cream milk.

The cheese samples, sold as Cheshire cheese, were satisfactory, and of good quality.

The baking powders consisted of acid potassium tartarate and sodium bicarbonate mixed with rice flour. They were free from traces of arsenic and lead.

The beer samples were free from preservatives, and from any trace of arsenic.

One of the samples of rice had been faced with steatite, and it contained 23.1 grains per lb. of that mineral, but the limit allowed is 35 grains per lb. The practice of facing rice with steatite appears to be dying out. It is very objectionable, and there seems to be no reason why it should not be prohibited.

The jam samples were free from apple pulp, but one of them contained salicylic acid as a preservative.

The samples of biscuits were free from preservatives, as was also the sponge cake sample; but the 2 cake samples contained boric acid. This was most likely introduced with liquid eggs or margarine, or with both.

One sample of butter contained 15 per cent. of cocoanut oil, but as the sample was an informal one a prosecution could not be carried out.

W. F. LOWE, City Analyst.

RAG FLOCK ACT.

Two samples of rag flock were submitted for analysis, and were found satisfactory.

The Public Analyst certifies these samples to contain 14·8 parts per 100,000 and 9·3 parts per 100,000 respectively of chlorine. The prescribed limit for chlorine is 30 parts per 100,000 in rag flock.

COMMON LODGING HOUSES.

There are four common lodging houses on the register, giving sleeping accommodation to 145 men in 27 rooms.

During the year, 35 visits were made, and 14 contraventions were found. In 4 cases the premises were dirty; in 2 the bedding was in a similar condition; 5 sanitary conveniences were foul; and 3 drains choked and defective.

The following is a tabular statement of the work done by the sanitary department:—

Number of—

Complaints in respect of nuisances	210
Visits in respect of nuisances.....	1966
Rooms disinfected after infectious disease	261
Investigations <i>re</i> infectious disease ...	187
Matters referred to City Surveyor ...	52
Tests applied to drains	381
Drains found defective	151
Drains reconstructed	84
Ashpits abolished	11
Ashbins provided	364
Inspections of Courts	793
Inspections of school premises	32
Inspections of stables, etc.	251
Inspections of canal boats	124
Inspections of factories and workshops	242
Dairies, cowsheds and milk shops	74
Inspections of slaughter-houses	326
Inspections of butchers' shops	325
Inspections of fishmongers' shops	255
Inspections of other food shops	320
Inspections of offensive trade premises	43
Smoke observations	22
House-to-house (district inspections)	172
Visits to common lodging-houses	35
Dwellings (inspections & re-inspections)	4071

The following notices were served:—

Intimation notices	452
Statutory notices	144

Of the statutory notices, 42 were under the Housing and Town Planning Act, 1919. Proceedings were instituted in two instances for failure to comply with notices for the abatement of nuisances. In one case the defendant was fined £2, and the second case was dismissed on the payment of costs, as the nuisance had been abated before the hearing by the Magistrates.

RATS AND MICE DESTRUCTION ACT, 1919.

During the year, 3 statutory notices were served under this Act.

The following table shows the routine work done by the rat-catcher:—

RAT CATCHER'S REPORT, 1924.

1924. Month.	No. of Visits.	Method.		Rats Caught.
		Traps.	Poison.	
January ...	88	50	29	74
February ...	115	106	9	103
March ...	130	111	19	212
April ...	103	75	30	198
May ...	132	101	32	195
June ...	131	105	28	189
July ...	154	122	37	180
August ...	80	66	15	116
September...	158	126	34	196
October ...	124	114	12	410
November ..	72	57	15	224
December ...	127	98	29	237
TOTALS ...	1414	1140	289	2334

During Rat Week, the Local Authority co-operated with the railway companies and with the general public in the destruction of rats and mice. It is extremely difficult to get a reliable idea of the numbers of rats destroyed, but there is little doubt that our activities were fatal to very many. The poisons used were "Dalroc" and "Barium Carbonate," and 124 lbs. of bait were used in all, supplying 50,240 baits. Bait was supplied to the railway companies and to the general public on a responsible person applying to the department. In addition, about two dozen break-back traps were loaned. The reports received from the public were very satisfactory.

8. Public Health Staffs.

Whole-time Officers.

1. The Medical Officer of Health, School Medical Officer, and Tuberculosis Officer.
2. Assistant School Medical Officer and Assistant Medical Officer of Health.

3. Chief Clerk.
4. Assistant Clerk and Laboratory Assistant.
5. Chief Sanitary Inspector.
6. District Sanitary Inspector.
7. District Sanitary Inspector.
8. Assistant District Inspector.
9. Labourer.
10. Rat-Catcher.

Female Staff.

Health Visitors, School Nurses, and Tuberculosis Nurses (combined posts)—4.

Part-time Officers.

Two Clinical Officers, V.D. Clinic, on the staff of the Royal Infirmary.

Physician: At the Maternity and Child Welfare Centre.

HOUSING.

General Conditions.—The year 1924 has been another year of disappointment so far as the provision of the smaller type of house is concerned. A contract for the erection of 49 houses was in course of execution, but none were ready for occupation during the year. During the early part of January of this year, 16 of those houses were handed over to tenants, and since then other have been completed and occupied. During the year, 4 houses were completed under the subsidy scheme, and in the early part of the present year another 7 were completed and occupied. Houses built outside both the subsidy and the Local Authority's housing scheme numbered 20. Quicker construction is necessary before much faster progress can be made.

In the work of maintaining a reasonable standard of fitness in existing dwellings, further progress has been made. There were 1,068 houses dealt with during the year, either under the Public Health Act or the Housing Acts. During the past four years, 5,372 houses have been dealt with in respect of sanitary requirements.

Of 1,117 houses inspected, there were only 49 which were found reasonably fit for human habitation, and gave no cause for administrative action. Of the remaining 1,068 the owners of 618 carried out the necessary repairs as a result of informal action; 42 were subject to notices under the Housing Acts, and 408 under the Public Health Act. The repairs in two houses were carried out by the Local Authority, the owner having failed to comply with the notices.

Closing Orders were made in respect of 3 houses—one by reason of its dilapidated and insanitary condition, and the other two on receipt of notice of closure from the owner, who deposited a plan whereby these two houses were to be thrown into two adjoining houses. This arrangement will provide for two four-room houses, with the necessary fittings and conveniences, in lieu of four two-roomed houses wanting in domestic accommodation.

One house, in respect of which a Closing Order had become operative in 1923, was repaired and made fit for habitation. The Local Authority subsequently determined the Closing Order.

It was found necessary to make a demolition Order against one house, which was in a dangerous condition. This Order was outstanding at the year end.

On Friday, 24th October, 1924, the Minister of Health held an inquiry in the Town Hall, Chester, in respect of the Handbridge Insanitary Area.

The area involved is 0·72 of an acre, on which 59 houses had been constructed.

Of these 59 houses, 20 are back-to-back and 18 are virtually back-to-back.

The representation of the Local Authority met with the approval of the Minister of Health, and the necessary Order was made.

The survey of the property on this site entailed a considerable amount of attention from the staff in the Public Health Department.

Excluding the Handbridge area, the following tabular statement sets out the work done in housing under various powers:—

APPENDICES.

HOUSING CONDITIONS.

STATISTICS.—Year ended 31st December, 1924.

I. General.

(1) Estimated population	41,610
(2) General death-rate	13·12
(3) Death-rate from tuberculosis	1·00
(4) Infantile mortality	86·2
(5) Number of dwelling-houses of all classes	8,506
(5) Number of dwelling-houses of all classes	8,530
(6) Number of working-class dwelling-houses	6,182
(7) Number of new working-class houses erected	1 0

I.—*Inspection.*

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	1,117
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910	172
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	3
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	1,068

II.—*Remedy of Defects without Service of Formal Notices.*

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers	618
---	-----

III.—*Action under Statutory Powers.*

A. Proceedings under Section 28 of the Housing, Town Planning, etc., Act, 1919:—	
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	42
(2) Number of dwelling-houses which were rendered fit—	
(a) by owners	28
(b) by Local Authority in default of owners)	2
(Outstanding 31st December, 1924) ...	
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declaration by owners of intention to close	2
B. Proceedings under Public Health Acts:—	
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied	408
(2) Number of dwelling-houses in which defects were remedied—	
(a) by owners	1,000
(b) by Local Authority in default of owners...	
26 (outstanding 31st December, 1924)	

C. Proceedings under Sections 17 and 18 of the
Housing, Town Planning, etc., Act, 1909:

(1) Number of representations made with a view to the making of Closing Orders	1
(2) Number of dwelling-houses in respect of which Closing Orders were made	3
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling- houses having been rendered fit	1
(4) Number of dwelling-houses in respect of which demolition Orders were made	1
(5) Number of dwelling-houses demolished in pur- suance of demolition Orders	—

Canal Boats Acts, 1877 and 1884.

2	Number of Boats added to Register in 1924	
...	Number re-registered owing to Structural Alterations	
...	Number re-registered owing to other reasons	
466	Total number registered to 31st December, 1924 ..	
6	Total number of Registrations cancelled	
460	Actual number of Boats on Register at 31st December, 1924	
124	Number of Boats inspected in 1924	
119	Number of Boats conforming to the Acts and Regulations	
5	Number of Boats infringing the Acts and Regulations	

Total number for which the Cabins were registered—424.

Total number occupying the Cabins 389

Details of occupation—Male Adults	137
Female Adults	105
Children of School Age	86
Children under School Age	61

389

Details showing Numbers Infringing in respect to:—

Number of Cases not with.		No. of Cases remedied.
1	Registration	1
...	Notification of Charge of Master .....	...
1	Absence of Certificate	1
1	Certificate not Identifying Owner with Boat	1
...	Marking .....	...
2	Overcrowding	2
...	Partition (Regn. 8, b. ii.) .....	...

Number of Cases met with.	No. of Cases remedied.
... .. Females over 12 improperly occupying .....	...
... .. Cleanliness .....	...
3 Painting	3
... .. Ventilation .....	...
5 Dilapidation	5
... .. Removal of Bilge Water .....	...
... .. Without Pump .....	...
... .. Refusal of Admittance to Inspector .....	...
... .. No proper Water Vessel .....	...
... .. Without requisite Double Bulkheads .....	...
... .. Non-notification of Infectious Disease ...	...
... .. No. of Boats detained for Cleansing (not for I/D)	...
<hr/> 13 <hr/>	<hr/> 13 <hr/>
Number of Legal Proceedings taken .....	...
Number of printed Notice Forms issued	5
Number of Notices attended to	5
Number still corresponding about .....	...

Table 1.—Vital Statistics of Whole District during 1924 and previous years.

YEAR	Population estimated to Middle of each Year	BIRTHS		TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NETT DEATHS BELONGING TO THE DISTRICT						
		Un- corrected Number	Nett	Rate	Number *	Rate	Of Non- registered in the District	Of Resi- dents not registered in the District	Under 1 Year of Age		At all Ages			
									Number †	Rate	Number †	Rate per 1000 Nett Births	Number †	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13		
1915	37,716	853	800	21.67	731	19.38	65	13	92	106.9	666	17.65		
1916	39,730	856	856	22.65	742	18.67	107	27	78	91.12	662	16.66		
1917	40,718 (B)	735	744	18.49	576	14.4	68	69	62	83.3	577	14.4		
1918	40,218 (D)	744	744	22.65	680	18.67	119	112	67	90.05	673	16.66		
1919	42,464 (B)	759	759	17.87	562	13.78	97	84	64	84.32	549	13.47		
1920	40,704 (D)	1072	1091	25.62	543	12.81	94	70	75	68.7	519	12.24		
1921	42,571 (B)	882	895	21.63	595	14.36	91	81	79	88.26	585	14.12		
1922	41,407	897	865	20.86	608	14.66	113	77	68	78.6	572	13.79		
1923	41,610	829	800	19.22	600	14.41	132	78	69	86.2	546	13.12		
1924	41,032	835	816	19.46	578	13.78	116	115	73	80.46	577	13.76		

Area of District in acres (land and inland water), 2,862.

No of inhabited houses, 8,530.

Average No. of persons per house, 4.91.

* Total deaths occurring in Chester whether of residents or non-residents.

† Births and deaths corrected for those births and deaths properly belonging to Chester, but occurring outside the District, or occurring in the District but properly belong outside.

CITY & COUNTY OF THE CITY OF CHESTER. Table III.—Causes of, and Ages at Death during the Year 1924.

CAUSES OF DEATH.		NET DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.												Total Deaths whether of "Residents" or "Non-Residents" in the District.
		At all Ages.	Under 1 year.	1 and under 2.	2 and under 3.	3 and under 4.	4 and under 5.	5 and under 10.	10 and under 15.	15 and under 20.	20 and under 35.	35 and under 45.	45 and under 65.		65 and upwards.
All causes	Certified Uncertified	574 3	71 2	20 ...	18 ...	8 ...	1 ...	2 ...	12 ...	9 1	28 ...	35 ...	153 ...	217 ...
1 Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2 Small Pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3 Measles	...	11	1	3	5	2	...	...	...	...	...	...	...	...
4 Scarlet Fever	...	1	...	...	1	...	...	...	...	...	...	...	...	...
5 Whooping Cough	...	2	2	...	...	...	...	...	...	...	...	...	...	...
6 Diphtheria and Croup	...	1	...	...	...	...	1	...	...	...	...	...	...	...
7 Influenza	...	6	...	...	1	...	...	...	...	...	...	...	...	...
8 Erysipelas	...	2	...	...	...	...	...	...	...	...	...	...	2	3
9 Phthisis (Pulmonary Tuberculosis)	...	47	1	...	1	1	...	...	1	3	10	10	18	1
10 Tuberculous Meningitis	...	7	1	2	4	...	...	...	2	...	1	...	...	2
11 Other Tuberculous Disease	...	4	...	...	1	...	...	...	...	...	...	...	...	...
12 Cancer, Malignant Disease	...	67	...	...	...	...	...	...	...	...	...	2	38	27
13 Rheumatic Fever	...	3	...	...	...	...	...	...	1	1	1	...	...	...
14 Meningitis	...	3	1	...	...	1	...	...	1	1	...	...	...	...
15 Organic Heart Disease	...	61	...	...	1	...	...	...	1	...	2	1	23	33
16 Bronchitis	...	59	14	...	...	1	...	...	...	...	...	4	14	23
17 Pneumonia (all forms)	...	30	5	10	2	1	...	...	...	...	...	2	3	7
18 Other Diseases of Respiratory Organs	...	9	...	1	...	...	...	1	...	...	...	1	4	2
19 Diarrhoea and Enteritis	...	9	7	...	...	...	...	...	...	...	...	...	...	...
20 Appendicitis and Typhlitis	...	1	...	...	...	...	...	...	...	...	...	...	...	...
21 Cirrhosis of Liver	...	2	...	...	...	...	...	...	...	...	...	...	1	...
21a Alcoholism	...	...	...	...	...	...	...	...	...	...	...	...	2	...
22 Nephritis and Bright's Disease	...	16	...	...	...	...	...	...	...	...	...	...	...	...
23 Puerperal Fever	...	2	...	...	...	...	...	...	...	...	1	1	7	7
24 Other Accidents & Diseases of Pregnancy & Parturition	...	3	1	...	...	...	...	...	...	...	1	1	...	...
25 Congenital Debility and Malformation, including Premature Birth	...	27	26	1	...	...	...	...	...	...	...	1	...	...
26 Violent Deaths, excluding Suicide	...	16	...	2	...	2	...	1	1	2	...	...	6	2
27 Suicide	...	5	...	...	...	...	...	...	...	...	...	1	2	2
28 Other Defined Diseases	...	184	14	1	2	...	...	...	5	4	8	11	31	108
29 Diseases ill-defined or unknown	...	2	...	...	...	...	...	...	...	...	1	...	1	...
Totals	...	577	73	20	18	8	1	2	12	10	28	35	153	217

Table IV.—Infant Mortality during the Year 1924.

CAUSES OF DEATH	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total Deaths 4 Weeks	4 Weeks and under 3 Months	3 Months and under 6 Months	6 Months and under 9 Months	9 Months and under 12 Months	Total Deaths under 1 Year
All Cause, { Certified, { Uncertified.	10 1	5 ..	7 ..	4 ..	26 1	16 ..	6 ..	18 ..	6 ..	72 1
Small-pox ..	..	..	..	..	..	..	..	..	..	..
Chicken-pox ..	..	..	..	..	..	..	..	..	..	..
Measles ..	..	..	..	..	..	..	..	1	..	1
Scarlet Fever ..	..	..	..	..	..	..	..	1	..	2
Whooping Cough ..	..	..	..	..	..	1	..	..	..	..
Diphtheria and Croup ..	..	..	..	..	..	..	..	..	..	..
Erysipelas..	..	..	..	..	..	..	..	..	..	1
Tuberculous Meningitis ..	..	..	..	..	..	1	..	1	..	1
Abdominal Tuberculosis (b) ..	..	..	..	..	..	..	..	1	..	1
Other Tuberculous Diseases ..	..	..	..	..	..	..	..	..	..	..
Meningitis (not Tuberculous)	..	..	..	..	..	..	..	..	1	1
Convulsions ..	..	..	..	1	5	1	1	2	1	9
Laryngitis..	3	..	1	1	..	4	2	5	1	14
Bronchitis..	..	..	1	1	2	1	1	2	1	5
Pneumonia (all forms) ..	..	..	..	..	..	1	1	..	1	2
Diarrhoea ..	..	..	1	..	1	..	1	3	1	5
Enteritis ..	..	..	1	..	1	..	..	..	..	..
Gastritis ..	..	..	..	..	1	..	..	..	..	1
Syphilis ..	..	..	1	..	1	..	..	..	..	..
Rickets ..	..	..	..	..	..	..	..	..	..	..
Suffocation, Overlying	..	..	..	..	..	..	..	..	..	..
Injury at Birth ..	..	..	..	..	..	..	..	..	..	..
Atelectasis..	..	..	..	..	..	..	..	..	..	..
Congenital Malformations (c) ..	1	..	..	..	1	..	..	..	..	1
Premature Births ..	5	3	1	..	9	2	..	2	..	13
Atrophy, Debility and Marasmus ..	1	1	2	1	5	5	1	..	1	12
Other Causes ..	1	1	..	1	3	1	..	1	..	5
Totals	11	5	7	4	27	16	6	18	6	73

Nett births in the year, legitimate, 776 ; illegitimate, 40.

Nett Deaths in the year of legitimate infants, 68 ; illegitimate infants, 5

Administration of the Factory and Workshop Acts, 1901 & 1907

IN CONNECTION WITH

Factories, Workshops, Laundries, Workplaces, and Homework.

1. INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR INSPECTORS OF
NUISANCES.

Premises. (1)	Number of		
	Inspections (2)	Written Notices (3)	Prosecutions (4)
Factories (including Factory Laundries) ...	32	2	—
Workshops (including Workshop Laundries) ..	186	17	—
Workplaces (other than Outworkers' premises)	24	—	—
Total	242	19	—

2. DEFECTS FOUND.

Particulars. (1)	No. of Defects.			Number of Prosecu- tions. (5)
	Found (2)	Remed'd (3)	Referred to H.M. Inspect'r (4)	
Nuisances under the Public Health Acts—				
Want of Cleanliness	1	1	—	—
Want of Ventilation	1	1	—	—
Other Nuisances	6	6	—	—
Sanitary accommodation { insufficient	3	3	—	—
{ unsuitable or defective	1	1	—	—
{ not separate for sexes	—	—	—	—
Offences under the Factory & Workshop Act :				
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	12	12	—	—
Total	24	24	—	—

3. HOME WORK

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.						OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.		
	Lists received from Employers,						Notices served on Occupiers as to keeping or sending lists.	In- stances.	Notices served.
	Sending twice in the year.			Sending once in the year.					
	Lists.	Outworkers. Con- tractors	Work- men.	Lists.	Outworkers. Con- tractors	Work- men.			
Wearing Apparel :—									
(1) Making, etc. ...	28	—	38	5	—	6	57	—	—
(2) Cleaning & washing	2	—	2	—	—	—	—	—	—
Furniture & Upholstery	4	—	4	—	—	—	—	—	—
Total ...	34	—	44	5	—	6	57	—	—

4. REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.	Number.
Dressmaking and Millinery	25
Bakehouses	38
Drapery and Tailoring	31
Boot and Shoe Making and Repairing	11
Blacksmiths and Shoeing Smiths... ..	14
Cabinet Making and Upholstering	4
Building Contractors	5
Miscellaneous	49
Total Number of Workshops on Register	177

5. OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901)	2
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5, 1901)	7
Underground Bakehouses (s. 101) in use at the end of the year	7
	0

